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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,241

02/17/2004

Ali Keshavarzi

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02/24/2005

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EXAMINER

NGUYEN, JOSEPH H

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/781,241	Applicant(s) KESHAVARZI ET AL.	
	Examiner Joseph Nguyen	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) 16 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/165,483.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/17/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-24 in the reply filed on 1/18/2005 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 6, 8-15, 17-18, 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Hwang.

Regarding claim 1, Hwang discloses on figure 1g a field effect transistor comprising a substrate 10, a source 52 and a drain 54; an electric field terminal region 16 in the substrate; and a body 20 above the electric field terminal region between the source and drain, wherein there is a barrier 12 between the electric field terminal region and the body.

Regarding claim 2, Hwang discloses on figure 1g the barrier 12 is an insulator layer between the body and the electric field terminal region.

Regarding claim 4, Hwang discloses on figure 1g a field effect transistor comprising an insulator layer 12; a body 20 above the insulator layer between a source

52 and a drain 54; a substrate 10 below the insulator layer; a gate 28 above the body and between the source and drain, the gate having a length; and an electric field terminal region 16 in the substrate.

Regarding claim 6, Hwang discloses on figure 1g the body 20 is lightly doped.

Regarding claims 8-14, the claim language is merely the intended use. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitation. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987). Therefore, the claimed invention does not structurally distinguish from Hwang herein.

Regarding claim 15, Hwang discloses on figure 1g the electric field terminal region 16 extends beneath the entire length of the gate 28.

Regarding claim 17, Hwang discloses on figure 1g the transistor is a PMOSFET.

Regarding claim 18, Hwang discloses on figure 1g the transistor is an NMOSFET.

Regarding claim 20, Hwang discloses on figure 1g a die comprising a first and second field effect transistor each including a substrate 10; an electric field terminal region 16 in the substrate, a source 52 and a drain 54; and a body 14 above the electric field terminal region between the source and drain.

Regarding claim 21, Hwang discloses on figure 1g an insulator layer 12 between the substrate and the body.

Regarding claim 22, Hwang discloses on figure 1g the insulator layer 12 is shared by the first and second field effect transistor.

Regarding claim 23, Hwang discloses on figure 1g the body 14 is shared by the first and second field effect transistors.

Regarding claim 24, Hwang discloses on figure 1g the electric field terminal region 16 is shared by the first and second field effect transistors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hwang as applied to claims 1 and 4 above, and further in view of Ayres et al.

Regarding claims 3 and 5, Hwang discloses on figure 1g substantially all the structure set forth in the claimed invention except the body being undoped. However, Ayres et al. discloses on figure 8 the body 111 is undoped (col. 6, lines 24-27). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hwang by having the body being undoped for the purpose of providing a certain application to a field effect transistor.

Regarding claim 7, Hwang discloses on figure 1g substantially all the structure set forth in the claimed invention except the channel being undoped. However, Ayres et al. discloses on figure 8 the channel 111 is undoped (col. 6, lines 24-27). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify Hwang by having the channel being undoped for the purpose of providing a certain application to a field effect transistor.

Note that the body 111 in figure 8 of Ayres et al. forms a channel between the source and drain as a voltage is applied to the gate.

Allowable Subject Matter

Claims 16 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications.

Art Unit: 2815

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN
February 11, 2005



ALLAN R. WILSON
PRIMARY EXAMINER